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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,491	12/05/2003	Juan Gutierrez Ibarra	A8618	7240

23373 7590 04/06/2006

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WASHINGTON, DC 20037

EXAMINER
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ROSENBERGER, RICHARD A

ART UNIT	PAPER NUMBER
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2877

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/727,491

Applicant(s)

IBARRA ET AL. 

Examiner

Richard A. Rosenberger

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-58 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-58 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/10/2005.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell et al (US 5,791,497), with Conway (US 5,164,795) for claim 13 and claims dependent therefrom, and with Aranda López et al (US 4,221,297) for claims 10, 15, 20, 51 and 58.

As in claims 1, 12, 44 and 52, Campbell et al shows a method and system which illuminates a plant product (fruit, in particular cranberries) with light in a particular wavelength or wavelength range and detects reflected light (column 4, lines 47-49) to assess damage (such as rot; column 1, lines 49-50) and assign a damage category thereto and sort them based upon the damage category (column 4, lines 23-25).

The Campbell et al reference states, in column 6, lines 17-19 that "[t]he optical response of a specimen 16 to radiation of a *particular wavelength* or range of wavelengths can signify defects such as the presence of rot" [emphasis added], and in column 9, lines 43-45, discusses the use of a laser as the light source, noting one particular laser has "emission as about 904 nm". Thus the reference teaches or at least clearly suggests, and intends to teach or at least clearly suggest, the inclusion of the use of a single wavelength within the scope of its disclosure. The Campbell et al reference also notes the known practice of using filters in the optical path of the camera to

“preserve operations in the pre-selected portions of the spectrum” (column 10, lines 17-20); when the “pre-selected portions of the spectrum” is, as taught or suggested to be “a particular wavelength”, then it would have been obvious to use such a filter tuned to the “particular wavelength” being used. Thus it would be, in light of the disclosure of the reference, at least obvious to “detect substantially a single wavelength” as claimed.

As for claim 13 and claims dependent therefrom, and for claims 10, 14, 20, 51 and 58, those in the art would have recognized that in a system such as shown by Campbell et al, that the camera can only see the top of the items being inspected, and that therefore the inspection is likely to be incomplete, because defects on the bottom of the berries will likely be missed, resulting in defective produce being passed through as acceptable. It would have been obvious therefore provide means to inspect the entire fruit; either by adding a second inspection station to view the fruit, as shown to be known by Conway (claims 13 and claims dependent therefrom), or by rotating the fruit under the camera, as shown to be known by Aranda López et al (claims 10, 15, 20, 51, and 57).

As for claims 2, 21, 22, 23, 25, 45, and 53 as discussed above Campbell et al discusses the use of lasers as the light source (column 9, line 43), which will emit light having substantially a single wavelength. As in claims 24 and 26, the use of diode lasers as a light source would have been obvious because they are known and commercially available light sources; the use of diode lasers as light sources is so well known official notice is sufficient.

As in claims 3, 32 and 48, the Campbell et al reference teaches detecting rot (column 6, line 20), which is a form of decay.

As in claims 16 and 18, the Campbell et al reference discusses using software to perform the analysis using a processor with memory (column 11, lines 26-28); doing so in a system controlled by software would have been obvious, as would using the processor to control the system; the use of software controlled systems to control and analyze data is so well known official notice is sufficient.

As in claims 4, 14, 18, and 52, the system of the Campbell et al reference produced and analyzes an image of the fruits. When, as discussed above, the obvious and known techniques for inspecting the entire surface of the objects are used, it would have been at least obvious to use the entire imaged results in the analysis, as in claim 10, 15, 17, 55 and 58.

As in claims 5 and 35, the Campbell et al reference sorts the objects, which at least clearly suggests separating the acceptable and unacceptable objects into separate locations.

As in claims 6, 31, and 47, the Campbell et al reference is directed to testing and sorting "fruits and vegetables" (column 10, lines 45-46).

As for claims 7, 27-30, 46 and 54, the Campbell et al reference teaches using light in the range of between about 750 to 1100 nm (column 7, line 40); the claimed wavelength (980 nm) and wavelength range (900 nm to 1100 nm ) is within the disclosed wavelength range of the Campbell et al reference, and it would have been at least obvious to use select wavelengths within the disclosed range where the difference to be measured is "most pronounced" (column 7, lines 38-40).

As in claims 8, 33, 34 and 49, the defective fruits reflect less light than the acceptable ones (column 7, lines 26-31).

As in claim 9, it would have been obvious to make the determination rapidly in order to maintain throughput; note that the Campbell et al reference states that the image can be obtained "once a millisecond", which is much shorter than the claims 80 nm.

As in claims 11, 19, 36-38, 40-42, 50 and 56-57, the Campbell et al reference shows moving the objects and illuminating them with a line of light (see figure 2) substantially along a line perpendicular to the travel direction, and viewing it along a line substantially perpendicular to the travel direction. The movement means is a conveyer system.

As in claims 39 and 43 the camera of Campbell et al detect an area of the reflected light.

3. The remarks filed 17 January 2006 have been considered. The remarks argue that in general the system of Campbell et al is not limited to light which is "substantially a single wavelength" being detected "without detecting light at other wavelengths" with the determination being done based on the reflected light "solely at a single wavelength". It is certainly true that the majority of the disclosure of the Campbell et al reference is not limited to a single wavelength. However, the disclosure of that reference does explicitly teach that light "of a particular wavelength". (column 6, line 18) can be used. Thus the reference does teach and intends to teach that monochromatic light, that is, light "of a particular wavelength", can be used. The fact that the reference does not limit the disclosure to a single wavelength embodiment, and presents embodiments which are not restricted to a single wavelength in the manner claimed, does not remove

from the disclosure or from the art the teaching that light "of a particular wavelength" can be used. Those who wrote the Campbell et al reference clearly conceived of, and disclosed in that document, the use a single wavelength of light to detect damage in plant products such as fruit.

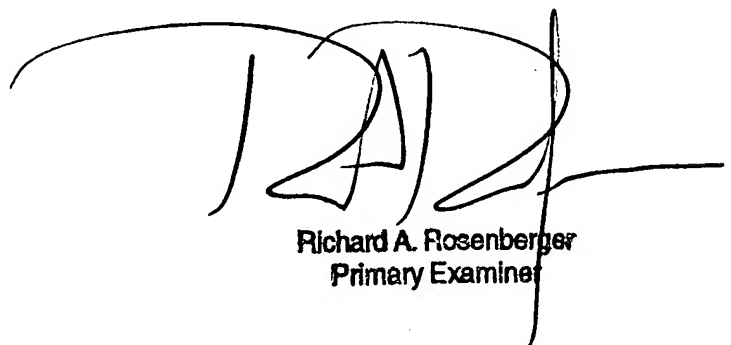
4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger  
23 September 2005



Richard A. Rosenberger  
Primary Examiner